Impact of assimilation of TPW from NOAA satellite in Numerical Weather Prediction at CPTEC.

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At CPTEC recently was implemented the PSAS (Physical-space Statistical Analysis System), development at NASA/GMAO. The PSAS is running in experimental test, in real time four-times at day, to be operational probably next month, the PSAS in this moment is running using conventional data, and data satellite like retrievals, principally ATOVS data. In the experimental tests, was observed that the fields analyses of humidity compared with the NCEP analyses is relatively dry in some regions principally in the oceans regions in this way was included the Total Precipitable Water, coming from NOAA satellite to assimilate with PSAS. The PSAS run with the global NWP model four-times at day, with the five days of forecast from 00 UTC and 12 UTC, and fro 12 hour forecast from 06 UTC and 18 UTC, during one month, December of 2004. The results was compared with the analysis fields from NCEP, the fields analysis obtained with PSAS with and without TPW, and was observed that the fields analysis of the humidity is better when is included TPW, that means, that is approximately similar that NCEP fields, principally in the oceans and in the tropical regions. Winds and geopotential height in the tropical region is very similar that NCEP fields. The NCEP fields for us is the control, because we don´t have access to another fields analysis. The comparation was considered the vertical levels, and we show the results in 850 and 500 hPa. The forecast impact we show in the forecast of precipitation, this forecast was compared with the observations in Brazil, the forecast of precipitation until 120 hours is better when is included TPW principally in regions close to oceans.